

On a Serow from Annam.

BY DR. R. HANITSCH,

Director, Raffles Museum, Singapore.

(With two plates.)

Two French gentlemen, Monsieur Louis Chochod and Monsieur Gabriel Saint-Poulof, of Quinhon, Annam, presented last year (1917) to the Raffles Museum the skin and skeleton of a Goat-Antelope or Serow, together with the photographs of the living animal, careful measurements and an account of its capture and of its behaviour in captivity.

The animal had been picked up in the sea by native fishermen on the morning of February 5th, 1917, off the peninsula of Phu'ong Mai (lat. about $13^{\circ} 30' N$) in Annam, having apparently fallen from the high cliffs there. Monsieur Toulouse, Commissioner of Police, was the first to hear of it and informed M. Chochod and M. Saint-Poulof of this strange occurrence. They hastened to the spot and found the animal alive, tied to a tree and surrounded by gaping Annamites. The animal was uninjured, but seemed much frightened and pulled hard on the rope. It allowed itself to be touched and to be caressed, though all the same its eyes were rolling for terror. Once it pulled so hard that its feet slipped, causing it to fall heavily to the ground.

M. Saint-Poulof bought the animal from its captors, placed it on a cart and took it to his house where he photographed it. It continued to make desperate efforts to get free from the rope. It drank readily, but refused to feed although it was offered leaves and grass from the hills specially gathered for its benefit, and died three days after.

The natives knew nothing definite about the haunts and the distribution of this animal. They said it lived in the mountains and moved about at night time only; they affirmed that it was rare and that only woodcutters and charcoal burners occasionally met with it. They regarded its flesh as edible, though it brought ill luck to those who ate it. The horns were said to have wonderful medicinal properties, and the Chinese apothecaries pay high prices for them for treating nervous diseases.

The Annamite name of the animal is "con dê nui" which really signifies "wild horse." The French of Indo-China, however, call it "mouflon," and French sportsmen state that it occurs along the coast of central Annam, on a small island opposite Tourane,

called "Ile aux mouflons," also on the islands of the Bay of Along and in the neighbourhood of Ninh-Binh, Tonkin. (The Bay of Along and Ninh-Binh lie due East and South-East of Hanoi respectively).

The occurrence of a "Wild Goat," or more correctly, of a "Goat-Antelope" or "Serow," in South-Eastern Asia has been known for more than a hundred years. The first description of a Serow is by William Marsden, who in his "History of Sumatra," 1st edition, 1783, p. 93, says:

"Goat: *Cambing*. Beside the domestic species, which is in general small, and of light brown color, there is the *cambing ootan*, or goat of the woods. One which I saw was three feet in height, and four feet in length of the body. It had something of the gazelle in its appearance and, excepting the horns, which were about six inches long, and turned back with an arch, it did not much resemble the common goat. The hinder parts were shaped like those of a bear, the rump sloping round off from the back. The tail was very small, and ended in a point. The legs clumsy. The hair, along the ridge of the back, rising coarse and strong, almost like bristles. No beard. Over the shoulder was a large spreading tuft of greyish hair: the rest of the hair black throughout. The scrotum globular. Its disposition seemed wild and fierce, and it is said by the natives to be remarkably swift." Bechstein, in his "Allgemeine Übersicht der vierfüssigen Thiere," 1799, Vol. I, p. 98, based upon this description his *Antilope sumatraensis*, and Raffles (Transactions, Linnean Society, Vol. XIII (1822), p. 266) and others corroborated the occurrence of a Serow in Sumatra. Raffles says that he kept one for months, but found it impossible to tame it, and that it finally died from impatience of confinement.

The Raffles Museum has one specimen of a Serow from Sumatra, obtained at Lebong Tandai, near Benkoelen, and presented in August of last year (1917) by Messrs. P. Jansen T. Pzn and C. J. Brooks. According to Mr. Brooks the animal seems to be common in the neighbourhood, as he once saw a number of Serow skins at a native auction at Tijroep. This Sumatran form appears by Blandford, Lydekker, S. S. Flower, Butler, Rowland Ward and others under the name of *Nemorhadus sumatrensis*, though Pocock has since shown that it should be known as *Capricornis sumatraensis*. (See his papers in A. M. N. H. (8) Vol. I. pp. 183-188, and P. Z. S. 1908, pp. 173-202).

To Dr. N. Wallich who had so many connections with Singapore, belongs the honor of having exhibited before the Zoological Society, London, the first specimen of a Serow from the mainland of Asia. This was in January 1832, and the skin had been transmitted to him by Mr. B. H. Hodgson, British Resident at Katmandoo (or Khatmandu), Nepal. Hodgson's detailed description of this animal, under the name of *Antilope bubalina*, is found in the Proceedings of the Zoological Society, Part II (1832), pp.

PHOTOGRAPH OF A SEROW (*CAPRICORNIS* Sp.), MALE, FROM PHUONG MAI, ANNAM,
TAKEN BY M. GABRIEL SAINT-POULOF, FEBRUARY 1917.



12-14. He says: "It is seldom found in herds, however small, and the grown males usually live entirely alone, except in the breeding season. Of all the Deers or Antelopes of these hills (viz: in Nepal) it is the most common. It tenants the central region equidistant from the snows on the one hand, and the plains of India on the other." This Antelope has now to be called *Capricornis sumatraensis* sub-sp. *thar* Hodgson (see Pocock, P. Z. S. 1908, p. 176).

The first record of a Serow inhabiting the Malay Peninsula is, as is to be expected, by Theodore Cantor, in his "Catalogue of Mammals inhabiting the Malayan Peninsula and Islands," originally published in the Journal, Asiatic Society of Bengal, Vol. XV (1846), p. 272, and subsequently reprinted in "Miscellaneous Papers relating to Indo-China," ser. 1, Vol. II (1886), p. 57. However, his remarks are disappointingly meagre. He merely says: "It appears to be numerous on the Malayan Peninsula, but exceedingly difficult to obtain, as it frequents the steepest hilly localities, and is very shy and active." This Malay Peninsular Serow which is now well-known, is, if not identical with, so at least closely allied to, the Sumatran form, and two geographical races of it have been described, viz: *Capricornis sumatraensis swettenhami*, Butler and *Capricornis sumatraensis robinsoni*, Pocock. These, together with five other sub-species, are discussed by Pocock, Proc. Zool. Soc., London, 1908, pp. 173-190.

The Raffles Museum possesses two pairs of horns of this animal, one from Tanjong Rambutan, Perak, and the other from Chankat Mandai, Ulu Kinta, both presented by Mr. E. M. Schwabe in 1905, and the sportsman will find in George Maxwell's "In Malay Forests" full directions as how to obtain this elusive "Wild Goat" or at least to get within a mile of it! (see pp. 167-185). Locally it is known as "Kambing gerun," besides as "Kambing utan," the name recorded by Marsden.

Further species of Serow were recorded from other parts of South-Eastern Asia, from Kashmir, the Himalayas, China, Tonkin and Burmah, Father Heude especially distinguishing himself by describing no less than 24 species from China and Tonkin alone which in the eighties and nineties of last century he with the help of numerous other Catholic Missionaries had collected. The specimens were deposited in the Sikawei Museum, Shanghai. Sowerby (P. Z. S. 1917 pp. 7-26) undertook the trouble of working through this vast collection and succeeded in reducing Heude's 24 species and David's one species to the following:

- Capricornis argyrochates*, Heude. The Province of Chekiang, S. E. China.
- „ *vidianus*, Heude. The region of N. E. Ssuchuan and S. Shensi, Central China.
- „ *milne-edwardsi*, David. W. Ssuchuan, N. W. Ssuchuan and S. W. Kansu, W. China.
- „ *collasinus*, Heude. Kuang-tung Province, S. China.

Capricornis rocherianus, Heude. Along Bay, Tonkin, S. W. China.

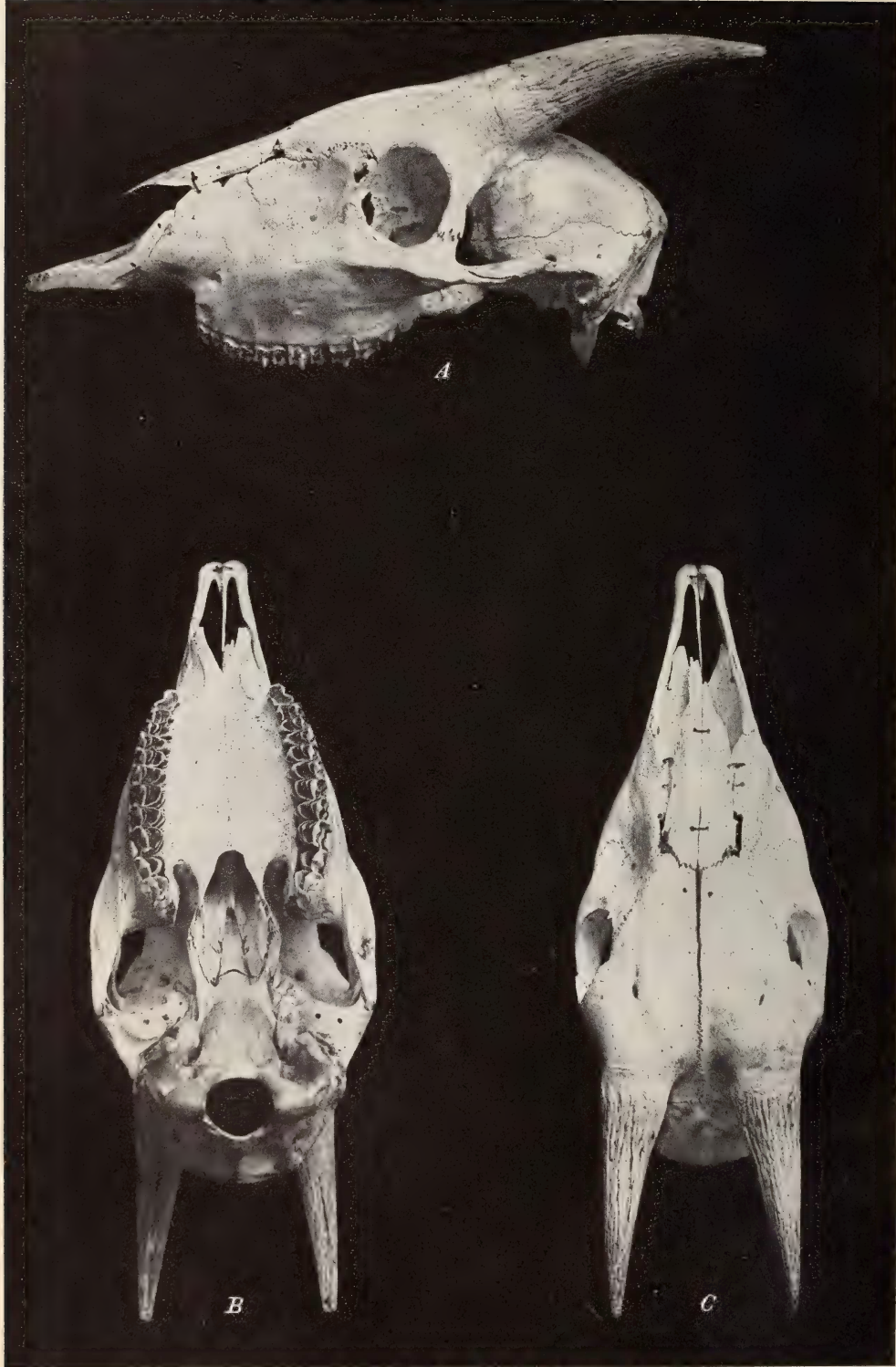
To come now to a description of the Serow from Annam, secured by Messrs. Chochod and Saint-Poulof:

Male; not quite adult, as the condition of the skull shows; coat shaggy; hair coarse; mane well developed. Colour: fore head, from nose to base of horns, rufous; cheeks black; from behind the eyes to base of ears, rusty; back of ears, rusty; inside of ears, white; upper lip, white; under lip, white, enclosing below a median patch of black; beard, white; throat and breast, black; mane long, composed of two sorts of hair: some entirely white, the others, more numerous, white at the base, black distally; belly black, behind with a few grey hair; sides of back with hair white at the base, black distally, producing together a greyish effect; forelegs, black down to the knees, except for a rusty patch at the inside; below knees, rusty, darker in front than behind; hind legs, black down to the hocks, without any grey; below the hocks, rusty brown; tail, black above, white beneath.

Its measurements, taken immediately after death, were: height at the shoulder 821 mm.; total length from between the horns to the tip of the tail 1300 mm.; ears 220 mm.; horns 170 mm.; tail 110 mm.

Pocock, in P. Z. S. 1908, p. 189, gives the measurements of the skulls of four different forms of Serow (*Capricornis sumatraensis*) from Kashmir, Nepal, Chamba (Western Himalayas) and Selangor respectively, and to allow a ready comparison with the skulls of the Serow from Annam and of the above mentioned Serow from Sumatra, presented by Messrs. Jansen and Brooks, I reprint herewith his table, adding the measurements of the two latter Serows. The Sumatran skull, unfortunately, was partly broken, so that two of the measurements could not be taken. It was that of an old male.

The table shows that the Annamite form approaches in its skull measurements nearest the Serow from Chamba, *Capricornis sumatraensis* sub-sp. *rodoni*, Pocock, yet differing from it by being narrower across the premaxillæ, zygomata and the posterior portion of the palate, by its longer, but narrower nasals, and by its greater height at the frontals. The Sumatran skull has in most respects the smallest dimensions, with the exception of the palate which anteriorly is extraordinarily wide. Naturally, a much larger series of skulls would be necessary to arrive at safe conclusions.



SKULL OF A SEROW (*CAPRICORNIS* SP.) FROM PHU'ONG MAI, ANNAM. $\times \frac{1}{3}$.
A, FROM THE SIDE; B, FROM BELOW; C, FROM ABOVE.

SKULL MEASUREMENTS IN MILLIMETRES.

	Kashmir	Nepal	Chamba	Selangor	Sumatra	Annam
Basal length from occipital suture to distal end of premaxillæ	245	241	223	240	?	220
Width across zygomata	130	128	127	117	112	114
„ „ maxillæ	98	98	98	102	85	94
„ between orbits	93	87	78	81	75	75
Median length of frontal	112	105	112	118	101	113
Median length of nasal	94	93	73	103	78	83
Width across nasals ..	50	47	41	48	44	31
Width across premaxillæ (maximum) ..	53	51	50	54	42	42
Width across premaxillæ (distal end) ..	32	31	26	27	25	23
Height from alveolus of molar 2 to summit of frontals	104	94	98	114	97	105
Height from alveolus of premolar 3 to summit of nasals ..	94	84	90	103	90	92
Length of cheek-teeth	90	87	93	92	81	95
Length and width of last molar	20; 13	20; 16	20; 12	21; 13	18; 12	20; 12
Median length of palate to distal end of premaxillæ	162	167	148	161	?	148
Width of palate between last molars ..	60	52	57	50	52	49
Width of palate between first premolars	41	38	38	38	42	37

Going by external characters and using the key given by Pocock (P. Z. S. 1908, p. 190) for identifying his seven geographical races of *C. sumatraensis*, we find, however, that the Serow from Annam differs markedly from the subspecies *rodoni*, the latter having "breast and underside white, and sharply defined from the dark colour of the rest of the body," and that it comes nearest to the sub-species *jamrachi*, from Darjiling, though differing from it by its forehead being rufous, instead of coal black, by its coat being shaggy, instead of 'short at all seasons,' and other characters.

Neither does Sowerby's revision of Heude's 24 species (see P. Z. S. 1917, pp. 7-26) lead to a satisfactory conclusion as to the specific position of our Serow. According to locality it ought to be *Capricornis rocherianus* Heude, from Along Bay, Tonkin, but this latter species is distinguished by its creamy-white stockings. Mr. Kloss who has been working up the Mammals of Siam, tells me that he has from there Serow skins with brown legs which he considers to come under *milne-edwardsi* or *vidianus*. So it is very possible that the Serow from Annam may belong to one of these two species. But more material and much more study will be required before this question can be settled satisfactorily.

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